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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,748	01/23/2004	Christopher J. Zwettler	10333US01	7626

7590 12/28/2006
Attention: Eric D. Levinson
Imation Corp.
Legal Affairs
P.O. Box 64898
St. Paul, MN 55164-0898

EXAMINER

HAUGLAND, SCOTT J

ART UNIT	PAPER NUMBER
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3654

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/763,748

Applicant(s)

ZWETTLER, CHRISTOPHER J.

Examiner

Scott Haugland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/29/06 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 13, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Cohen et al (U.S. Pat. No. 3,924,823).

Cohen et al discloses a data storage cartridge having a tape driven by a drive belt for use with a drive having a drive member 66F comprising: a housing 12 having a top 14 and a front perpendicular to the top, a driven roller (roller coaxial and below roller 30 in Fig. 5) rotatably mounted in the housing, and a driven member (30 and shaft on

which it is mounted). The top has a driven roller opening (allowing 66F to engage driven roller 30; Fig. 5) that extends to the front.

With regard to claim 13, note that the driven roller has a base (between the shaft that connects the driven roller and roller 30 and the outer surface of the driven roller).

Claims 1, 2, and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Zwettler (U.S. Pat. No. 6,457,664).

Zwettler discloses a data storage cartridge 20 having a tape driven by a drive belt 64 comprising a housing 22 having a driven roller (including outer portion of 58 in Fig. 6) rotatably mounted in the housing and a driven member (lower portion of 58 surrounded by the cavity in Fig. 6) operatively connected to the driven roller having a drive member engagement surface and a drive member capturing member. The cartridge of Zwettler is capable of use with the claimed drive and has a drive member engagement surface. The cartridge of Zwettler has a front (vertical surface surrounding opening 110 in Fig. 6) perpendicular to the top of the housing 22. The top has a driven roller opening 110 that extends to the front. The claimed front to which opening 22a in Applicant's apparatus extends reads on a surface of door 29 perpendicular to top 22 of the housing of Applicant's cartridge and bounding the opening 22a (see Fig. 3).

With regard to claim 2, the cartridge of Zwettler has a driven member comprising a cylindrical member (lower portion of roller 58 in Fig. 6) connected to the driven roller (including outer portion of roller 58) having angled surfaces (on teeth 100) proximate a

second end of the cylindrical member and a slot (formed by a pair of teeth 100) defined in the second end.

With regard to claim 14, note the cavity in the lower portion of 58 adjacent the edges of opening 110 in Fig. 6 of Zwettler.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al (U.S. Pat. No. 3,924,823) in view of Zwettler (U.S. Pat. No. 6,457,664).

Cohen et al is described above.

Cohen et al does not disclose a slot in the driven member.

Zwettler teaches providing a driven member 58 of a belt-driven tape cartridge with angled surfaces (on teeth 100) and a slot (formed by a pair of teeth 100) defined in an end of the driven member for coupling the driven member to a drive member.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the driven member of Cohen et al with a slot as taught by Zwettler to permit coupling of the driven member to a drive member coaxial with it to permit use of the modified cartridge of Cohen et al with a drive such as that in Zwettler.

Claims 5, 6, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zwettler (U.S. Pat. No. 6,457,664) in view of Kimizuka et al (U.S. Pat. No. 4,445,651).

Zwettler is described above.

Zwettler does not disclose explicitly disclose that the drive member is moveable in a first direction by contact with the cartridge or that insertion of the cartridge in the drive in a second direction generally perpendicular to the first direction moves the drive member in the first direction.

Kimizuka et al teaches making a drive member of a cartridge drive moveable in a first direction by contact with a cartridge during insertion of the cartridge in a second direction perpendicular to the first direction.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the cartridge of Zwettler with a driven member moveable in a first direction by contact with the cartridge when the cartridge is inserted into the drive in a second direction generally perpendicular to the first direction as taught by Kimizuka et al to provide a simple mechanism for effecting positive engagement and alignment of the cartridge drive and driven roller.

With regard to claim 6, It would have been obvious to provide a spring as taught by 46a, 46b of Kimizuka et al to bring about engagement of the drive member and roller. The spring is operatively connected to the motor at least through connection with other

components of the apparatus. The motor disclosed by Zwettler and Zwettler as modified is above the driven roller opening in some orientation of the apparatus.

Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zwettler in view of Kimizuka et al as applied to claim 6 above, and further in view of Zuckschwert et al (U.S. Pat. No. 3,934,841).

Zwettler does not disclose that the drive motor is moveable.

Zuckschwert et al teaches making a drive motor 4, 5 for a tape cartridge 9 moveable along with a drive member 6, 7 to permit engagement and disengagement of the drive member and the cartridge during loading and unloading.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the motor of Zwettler moveable along with the drive member as taught by Zuckschwert et al to accomplish the required moveability of the drive member.

With regard to claim 8, Zwettler has a driven member comprising a cylindrical member (lower portion of 58 in Fig. 6) connected to the roller (including outer portion of 58) having angled surfaces (on teeth 100) proximate a second end of the cylindrical member and a slot (formed by a pair of teeth 100) defined in the second end. Kimizuka et al also teaches these structures.

With regard to claim 11, the driven roller opening is over the driven member in some orientation of the cartridge.

Claims 12 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimizuka et al (U.S. Pat. No. 4,445,651).

Kimizuka et al discloses a method of engaging a data storage cartridge into a drive having a drive member 42a, 42b, 43a, 43b, 44a, 44b moveable between a first position and a second position, the method comprising: inserting the cartridge into the drive in a first direction, moving the drive member 42a, 42b, 43a, 43b, 44a, 44b from its first position to its second position by movement of the cartridge in the first direction, movement from the first position to the second position being generally perpendicular to the first direction, moving the drive member back towards its first position when the cartridge is fully inserted, and engaging the drive member to a driven member 29a, 29b, 31a, 31b on the cartridge. Note col. 5, lines 14-30. The drive member is stationary in the second direction until the drive member interacts with the driven member. Interaction with the drive member may include engagement with the housing in which the drive member is located.

Kimizuka et al does not explicitly disclose that driven member is entirely maintained within the housing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to entirely maintain the driven member within the housing to provide protection for the teeth of the driven member from damage by impact with hard surfaces and to protect against catching or snagging of the teeth on fabrics and damage to other soft surfaces during handling.

With regard to claim 18, Kimizuka et al has a front (note the surface surrounding openings 33a, 33b and facing 29a, 29b and upper portions of 42a, 42b in Fig. 5) perpendicular to the top (lower horizontal face of case in Fig. 3). The openings 33a, 33b extend to this front surface.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al (U.S. Pat. No. 3,924,823) in view of Alahapperuma et al (U.S. Pat. No. 6,027,778).

Cohen et al is described above.

Cohen et al does not disclose a cavity between the outer surface of the driven roller and the driven member.

Alahapperuma et al teaches forming a belt drive roller of a tape cartridge with a cavity between an outer surface of the roller and an inner shaft engaging portion.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the driven roller in Cohen et al with a cavity between its outer surface and the supporting shaft as taught by Alahapperuma et al to provide the roller with sufficient strength to perform its intended function while reducing its mass, the amount of material required to form it, and the cost to make it.

Response to Arguments

Applicant's arguments filed 9/29/06 have been fully considered but they are not persuasive.

Applicant argues that Zwettler does not disclose a housing having a top and a front adjacent and extending substantially perpendicular to the top where the top defines a driven roller opening that extends to the front as recited in claim 1. However, as noted above, Zwettler has a front (surface surrounding opening 110) perpendicular to the top to which the driven roller opening extends. Cohen et al, also, has this structure. Opening in the left side of top 14 (Fig. 5) of Cohen extends to a front (left side of cartridge in Fig. 5) that is perpendicular to top 14.

Applicant argues that Zwettler does not have the structure recited in claim 13. However, roller 58 in Zwettler has a base (e.g., horizontal portion of 58 at narrow end of the cavity in 58 near 110), driven roller (including outer surface of 58), and driven member (lower portion of 58 surrounded by the cavity formed in 58 near 110). The driven member and outer surface, thus extend from the base and the driven member is radially spaced from the outer surface.

Applicant argues that Kimizuka et al does not disclose a drive member that is stationary in a second direction until the drive member interacts with a driven member of the cartridge as recited in claim 12 and does not disclose that the driven member is maintained entirely within a housing as recited in claim 12. However, interaction of the drive member and the driven member is seen to include all movement of the drive member required during loading of the cartridge into a drive to accomplish engagement of the drive member and driven member. The driven members 29a, 29b, 31a, 31b in Kimizuka et al appear to be maintained entirely in the housing in Fig. 5. Assuming, arguendo, that they are not, it would have been obvious to maintain them entirely in the

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housing to protect the drive teeth, user, and surfaces in the immediate environment.

Locating the driven members so that they are entirely in the housing at all times would not significantly affect the operation of the cartridge or its ability to perform its intended function.

Applicant argues that the combination of Zwettler and Kimizuka et al does not meet claim 5. However, the apparatus of Zwettler as modified by Kimizuka et al would have the claimed structure that allows an inclined engagement surface of the teeth of gears 31a, 31b and sides of the gears to interface the drive member to move the drive member in a first direction as the drive member advances along the inclined engagement surface. Engagement of convex members 44a, 44b of the drive members with teeth of gears 31a, 31b and with surfaces of openings 30a', 30b' cause movement of the drive members during relative movement of the cartridge and the drive.

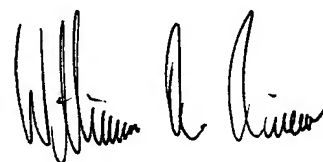
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571) 272-6945. The examiner can normally be reached on Mon. - Fri. 10:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


sjh
12/14/06



**WILLIAM A. RIVERA
PRIMARY EXAMINER**